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ABSTRACT

A four-phase staff development program for faculty of health science professional schools is described, and aspects of the teaching/learning process are considered. The first phase dealt with intensive, all-day educational workshops for faculty in the basic and applied health sciences. Topics such as instructional planning, strategies of teaching and learning, educational research findings, test construction, and evaluation were major areas of discussion. In the second phase, faculty teaching was observed by the educational consultant, and confidential, individual conferences were made an option. The third phase included the writing of criteria for self-evaluation and the use of a questionnaire for students to evaluate instruction. Finally, the fourth phase was a summative evaluation program that integrated the results of the workshops, observations, conferences, self-evaluations, and current educational research. The aim was to develop a model for promoting teacher effectiveness, especially in the health sciences. A checklist for faculty self-evaluation is presented, which covers instructional planning, classroom instruction, and instructional evaluation. Some perspectives on lecturing in health sciences courses, listening, and critical thinking skills are provided. (Author/SW)

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COLLEGE FACULTY DEVELOPMENT FOR TEACHER EFFECTIVENESS IN PROFESSIONAL SCHOOLS OF HEALTH SCIENCES

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Abstract

COLLEGE FACULTY DEVELOPMENT FOR TEACHER EFFECTIVENESS IN PROFESSIONAL SCHOOLS OF HEALTH SCIENCES

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How can professors in the health sciences such as in medical, dental, chiropractic and other allied health sciences teach their students effectively? A four phase program was designed.

The first phase dealt with a series of intensive, all day educational workshops for faculty in the basic and applied health sciences. Topics such as planning instruction, objectives, strategies of teaching and learning, educational research findings, test construction, evaluation and problem solving were major areas of discussion. Outside specialists were brought into the workshops.

The second phase dealt with observations of faculty teaching by the educational consultant who as an outsider was not a threat to the faculty. Confidential, individual conferences were scheduled for those faculty who desired such conferences.

The third phase included the writing of criteria for self-evaluation and the use of a questionnaire by students who describe teaching by their professors - student evaluation. The fourth phase is a summative evaluation program which integrates the results of the educational workshops, observations, conferences, faculty self-evaluations, current educational research with the aim of developing a model in higher education, especially in the health sciences, for faculty development for teacher effectiveness.

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* Professor emeritus, City University of New York (Queens College) and educational consultant.

COLLEGE FACULTY DEVELOPMENT FOR TEACHER EFFECTIVENESS IN PROFESSIONAL SCHOOLS OF HEALTH SCIENCES

Nathan S. Washton*

In the Spring of 1981, the writer gave an educational workshop to the core science faculty of the New York Chiropractic College and to the New York Institute of Technology. The theme was teaching students for effective learning. Some of the problems discussed were: planning instruction, strategies of instructional procedures for problem solving and critical thinking, motivation, and evaluation of learning. Almost all of the faculty had a doctorate in either a basic science, chiropractic or medical science. They were interested in learning what research in education recommends for effective teaching. As a result of this introductory workshop, the writer was asked to design a program, "Faculty Development for Teacher Effectiveness".

Four phases were established. The first phase dealt with a series of intensive all day faculty workshops, using outside specialists in education, psychology, administration, student personnel services, and science. Faculty participation prevailed through discussion, group work, analysis of video cassettes of professional teaching to medical students and the writing of criteria for self evaluation of instruction.

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The second phase dealt with the educational consultant who is a science education specialist to observe members of the faculty teach the basic sciences, chiropractic and other allied health sciences. It is significant to note that the consultant was not a threat to the individual faculty member during classroom visits of observation. The consultant was not required to report results of individual faculty observations to the administrative staff. He kept notes of each instructor whom he observed. The faculty member had the option of conferencing with the consultant privately. About one third of the faculty would elect to have a private conference with the educational consultant.

The follow-up educational workshops included the recommendations for teacher effectiveness based on the consultant's classroom observations and the current educational research reported in various journals. Some of the topics discussed were: student evaluation and the learning process, the art of science teaching, faculty-student communication, aprofessional approach to problem solving, and the use of audio-visual aids. Faculty members were not identified in the workshops when specific recommendations were made for effective learning. Unannounced follow-up classroom visits by the consultant showed that most of the members of the faculty put into practice the recommendations discussed during the workshops.

The third phase emphasized the development of criteria for self evaluation for faculty and the development of a questionnaire for their students to evaluate instruction. The following CHECKLIST FOR FACULTY SELF EVALUATION was the result of the first and second phases of this project.

CHECKLIST FOR FACULTY SELF EVALUATION

A. PLANNING INSTRUCTION

1. Did I prepare an outline (written or mental) for class instruction which
   a. lists the major objective(s) in the form of an important concept, principle, skill(s), attitude(s) to be developed?
   b. lists the specific instructional methods or procedures such as lecture, analogy, demonstration, laboratory activity, case study, use of audio-visual aids (cassette, tape, slide, overhead projector, video screen, film, chart, model etc.)
   c. contains an outline of what will appear on chalkboard emphasizing correct spelling of new vocabulary, definitions, major concept, drawing(s) or sketches of anatomical parts or processes with labels?
   d. indicates an appropriate problem, if applicable, or question(s) that are relevant to the chiropractic practice?
   e. indicates formative evaluation in the form of questions, discussions and observations.
2. Did I check with multi media personnel to determine which audio visual aids are available (cassettes, video tapes, slides, films, models, etc.) for my lectures, laboratory and demonstrations for the next few weeks?
3. Do I have a recent research study or scientific paper on the topic of the day that I could bring to the attention of my students?
4. Do I know my students general background of basic sciences to help me plan the appropriate selection of content and material for instruction?
5. Have I examined the reading assignments to be made and appropriate suggestions for student learning?

B. CLASSROOM INSTRUCTION

1. Did I look over my plans and/or materials for instruction?
2. Am I using the chalkboard in accordance with my plan? OR Handout OR Transparencies
   a. correct spelling of new vocabulary
   b. headings or titles when listing items 1,2,3, etc.
   c. legible, written material for correct size to be viewed throughout the classroom
   d. drawings or sketches that are clear, visible with labels
3. Am I maintaining professional student conduct at all times and also have a sense of humor?
4. Am I presenting the lecture in class or explanations in laboratory in a clear, logical and analytical manner?

5. Do I ask if there are any questions and do I answer them in a manner which promotes student understanding? If class time does not permit answers to certain questions at the moment, what provisions do I make? After class, next meeting, reading etc.

6. Do I want students to take notes and does my rate of speech permit students to write notes efficiently without boring them?

7. Can the person talking (professor or student) be

   a. heard at all times by <u>all</u> students? microphone?
   b. Am I or the student talking in a low voice to only one student in answering a question and as a result I lose the attention of the whole class?
   c. Do I ask students to <u>Speak louder</u> each time when he/she cannot be heard at all times?

8. Do I ask a number of thought provoking questions in addition to simple, factual questions?

9. Is the demonstration visible to all students situated throughout the classroom?
   a. is a platform needed to raise the patients table?
   b. Should I have all students come forward?
   c. Should I offer another position or two of patient and myself so that students can see the various positions of hands, arms, legs, head, pressure points, etc.

10. Whenever possible, an I making instruction relevent to chiropractic practice?

C. <u>EVALUATING INSTRUCTION</u>

1. Am I observing the faces of my students to detect if they exhibit a lack of understanding or if they are bored?

2. Is my level of instruction appropriate to the minimum eligible requirements and stimulating enough to carry the students with more advanced background?

3. Am I evaluating student understanding of the lecture, laboratory, or demonstration by the kind of questions and answers they give in class?

4. Do I present questions at strategic times to sample student learning?

5. In laboratory, do I observe the skill and performance by students such as the use of the microscopic material, student use of palpation, manipulation of patients, a pencil marker to locate various anatomical parts, proper use of instruments and do I correct the various faults by actually showing the students the correct manipulation or skill?

6. Do I give practicals periodically by making use of models, lab materials, etc.?

7. a. In preparing written tests, is there a balance of class material and reading assignments?
   b. Is the level of difficulty of the questions in line with what is being taught?
   c. am I requiring the students to maintain a professional conduct during examinations?
   d. In my humble judgment, do I assess the total work of the student in giving a final grade?
   e. Did I give careful thought in preparing the nature of the questions on the examination?

During the next year, student evaluations of faculty instruction will be developed and finally the fourth phase will deal with a summative evaluation of workshops, observations, faculty self-evaluations and student evaluations of instruction.

Discussion

In professional schools where basic and applied sciences are taught, it is not uncommon to find very intelligent graduate students overwhelmed by the minutiae of facts presented during the lectures. Students pass the examinations but the retention of such facts are limited in time. They need to have concepts that are meaningful and wherever possible applied to real life situations. Research studies by Osterman (1982), Noll and Allen (1982), and Lysakowski and Walberg (1982) indicate the importance of student participation before, during, and after lectures. Since 1974, the Feedback Lecture has been in use at Oregon State University. When students were given pretests, study guides, a page on objectives, advanced terminology, and an introductory theme before coming to the lecture, they performed very well. A change instudent attitudes and learning was reported when students were more active during the learning

process.

Professors have learned the importance of encouraging students to ask questions so that no block to learning occurs in the course of the lecture. During strategic times, they will ask students "are there any questions" in order that the continued parts of the new concept can be understood. For example, in biochemistry a general structural formula for a new compound should be recognized before one can understand when it undergoes a chemical change to produce a new compound. Teaching from the simple to the complex can proceed efficiently if the simple concept is understood. Therefore, student evaluation during a question-answer session is very important.

Motivation or self-initiated learning occurs within the listener or learner. At best, the lecturer attempts to stimulate the listener with the hope that the learner understands and retains the new information. The lecturer is merely "setting the stage"for learning to take place. To do this, various approaches are used: the "seductive" or "Dr. Fox effect" (see Naftulin 1973), the anecdote, personal experience, the demonstration, reading about a current event related to the topic or problem, audio-visual aids, thought provoking questions and last but not least getting the listeners to participate at strategic times during the lecture.

"Educational Seduction" or the "Dr. Fox Effect" is based on a research study to determine the effect of an instructor's personality on student evaluations. In this study a professional

actor was the lecturer and was introduced to the students as Dr. Myron L. Fox. The conclusion of this study stated that even when the content of the lecture was missing, the students were under the illusion that they learned the content. Students were "seduced" by the personality, wit, and authority of the lecturer. Other studies by Sheehan (1975), Frey (1978), and Kaplan (1974) gave mixed reactions to this conclusion in which questions were raised about valid measures of teacher effectiveness, lack of student participation, inadequate experimental controls, etc.

There is a trend in continuing education in the health sciences to provide staff members with seminars and educational workshops. Instructional personnel are interested in improving their skills in the teaching-learning process. It is interesting to compare the golfer without formal instruction with one who received a number of hours of instruction from a pro. The one without formal instruction slams the ball and eventually may become a good golfer. The one with professional instruction will develop more rapidly as a result of a more efficient learning process.

The skills in teaching <u>information</u> dealing with abstract theories in the sciences or in medicine are different from the skills needed to teach a laboratory procedure. Lectures, demonstrations, and laboratory are effective instructional procedures for their specific objectives. Other methods of teaching such as problem solving, case study, research, and historical investigations can serve as very useful techniques to accomplish other objectives.

If every listener were to hear and understand what the lecturer says, then it would be unnecessary to examine teaching methodology. Unfortunately, assumptions are made that cannot be substaniated for all listeners. For example, listening is learning. Not all members of an audience hear everything stated by the lecturer. People are selective listeners and hear what they want to hear. They will remember best the things that they like to hear which are in accord with their own thinking. If the idea presented is not in agreement with the listener, then the tendency is either not to hear, or reject the idea, or start developing arguments against the idea that was presented.

Adults behave or respond to the lecturer according to their knowledge, experience and feeling. If a listener has little knowledge, some experience and intense feelings, he or she is apt to say "down with so and so" or simply disagree with the lecturer. On the other hand, if the listener has a very scholarly background with little or no experience, the listener may accept the proposed ideas with little or no action. Intelligent social action will usually result from the person who has a good combination of experience, knowledge and positive feelings.

What causes the listener to become highly selective in accepting new information or concepts? The listener may have a personality with a high degree of rigidity. This person will find it extremely difficult to accept an idea which is in conflict with the one he or she possessed for many years. Adults cling tenaciously to their convictions.

The professor teaches attitudes along with the information. Although the anatomy professor is concerned with teaching only the anatomy of the head region or the voluntary muscles with their origins and insertions, inevitably student attitudes are formed by the manner in which the presentation is made. Facial expressions, use of language, body language, interaction with students are only a few items that affect student attitudes which may have a profound effect in the learning process.

Bloom's taxonomy of educational objectives lists the three domains as cognitive, affective, and psychomotor. The cognitive or informational teaching-learning process usually develops to various degrees depending upon the nature of the lecture content, the lecturer and the type of response by the learner. The less the degree of rigidity in student and professor personality, the more suitable will the environment be for teaching critical thinking.

At West Virginia University, Moll and Allen (1982) report that short video presentations in biology classes influenced critical thinking. Students made actual observations, analyzed data, and performed critical thinking rather than merely receiving "correct information". Wherever needed, tables and graphs were also used to make interpretations and predictions. The study indicates that through the use of appropriate materials and opportunities, students can be taught to improve their critical thinking ability. The affective domain emphasizes attitudes, emotions, and interests. Such attitudes are related to critical thinking and the flexibility of personality is an asset to critical thinking.

- The psychomotor domain is very vital in training chiropractic, medical, and dental students. The ability to use medical instruments and to manipulate the spine or perform other physical adjustments can be learned through demonstrations and laboratory teaching. These psychomotor activities demand that students not only have excellent opportunities to observe very clearly the demonstrations but also to be able to perform and duplicate the various skills needed. This type of teaching for the psychomotor and affective objectives requires instructional methodologies that go beyond the lecture.

Through the use of educational workshops for faculty development, observations by non-threatening consultants, conferences of a supportive and helpful nature, and faculty self-evaluation, teaching-learning effectiveness can be improved on the college and university level - especially in professional schools. More studies are needed such as those being made by Barbara Davis at the University of California at Berkeley so that we can learn more about faculty development and learning effectiveness.

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